

## Usability Goals

September 15, 2017

## Questions?

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## Overview of Today's Lecture

Usability goals

User experience goals

What are the characteristics of a  
"good" interface/interaction?

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## Usability Goals

Designers produce primary usability objectives throughout the process of requirements gathering

E.g., Should the system promote efficiency over creativity, both, or any other objective?

These primary objectives are referred to as usability goals and user experience goals

A *usability goal* addresses the issue of meeting a specific usability criteria

A *user experience goal* is concerned with the quality of the user's experience with the system

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## Usability Goals

Designing user interactions requires identifying important usability goals for the system

Most common usability goals:

- Effectiveness
- Efficiency
- Safety
- Utility
- Learnability
- Memorability

Parts of a system may have different goals:

- Accounting routines (efficient, safe)
- Scheduling routine (memorable)

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## Usability Goals

Each usability goal is typically operationalized as a question

A more concrete way for a designer to tell if they are meeting the goal

*Usability criteria*: something that can be measured to determine if the goal is being met

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## Usability Goals

### 1) Effectiveness

Most general goal

Concerned with whether the system is doing what it generally says it will do

Question: is the system doing what it is supposed to do?

E.g.,  
word processor  
E-commerce system  
Educational software

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## Usability Goals

### 2) Efficiency

Considers how much time it will take users to perform their tasks

Generally the more steps it takes to carry out a task, the less efficient a system is

Question: is the user saving time/being productive with the system?

Criteria: time to complete a task; # of operations to complete a task

E.g.,  
Voice mail  
Amazon e-commerce

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## Aurora

The screenshot shows the Aurora web application interface. At the top, there is a navigation bar with the University of Manitoba logo and the word "Aurora". Below this is a secondary navigation bar with tabs for "Personal Information", "Faculty Services", "Advisor Services", and "Student Reports". The main content area is titled "Main Menu" and includes a welcome message for a user named Andrea Bunt. There is a prominent "Important Student Email Update" section with a warning icon. Below that, there are sections for "Personal Information", "Advisor Services", "Faculty Services", and "Ask Us@aurora.ca". At the bottom, it says "RELEASE: 8.5.1".

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## Aurora

The screenshot shows the "Faculty Services" page in the Aurora web application. It features the same navigation bar as the previous screenshot. The main content area is titled "Faculty Services" and contains a list of links: "Term Select", "CRN Select", "Access Class List", "Enter Final Grades", "Setup / Update Syllabus Online", "Setup / Update Office Hours Online", "View Faculty Detail Schedule", "View Week at a Glance", "View Active Teaching Assignments", "View Teaching Assignment History", "View Current Exam Schedule", "Class Schedule", and "Course Catalog". At the bottom, it says "RELEASE: 8.5.3".

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## Aurora

The screenshot shows the "Select Term or Date Range" page in the Aurora web application. It features the same navigation bar. The main content area is titled "Select Term or Date Range" and includes a message about the preliminary 2017-2018 Class Schedule. There is a "Search by Term:" section with a dropdown menu and a search button. At the bottom, it says "RELEASE: 8.5.1".

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### Aurora

UNIVERSITY OF MANITOBA | Aurora

Personal Information | Faculty Services | Advisor Services | Student Reports

**Select Term or Date Range**

The preliminary 2017-2018 Class Schedule is now available for viewing, please check back

**Search by Term:**

None

None

Winter 2018

Fall 2017

PGME/PGP 2017-18 (View only)

Summer 2017 (View only)

Winter 2017 (View only)

Fall 2016 (View only)

PGME/PGP 2016-17 (View only)

Summer 2016 (View only)

Winter 2016 (View only)

Fall 2015 (View only)

PGME/PGP 2015-16 (View only)

Summer 2015 (View only)

Winter 2015 (View only)

Fall 2014 (View only)

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### Aurora

UNIVERSITY OF MANITOBA | Aurora

Personal Information | Faculty Services | Advisor Services | Student Reports

**Select Term or Date Range**

The preliminary 2017-2018 Class Schedule is now available for viewing.

**Search by Term:**

Fall 2017

Submit | Reset

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### Aurora

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Personal Information | Faculty Services | Advisor Services | Student Reports

**Select a CRN**

**CRN:** COMP 3020 A01: HUMAN COM INT1, 10186 (99)

Submit

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### Aurora

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Personal Information | Faculty Services | Advisor Services | Student Reports

**Select a CRN**

**CRN:** COMP 3020 A01: HUMAN COM INT1, 10186 (99)

COMP 3020 A01: HUMAN COM INT1, 10186 (99)

COMP 3020 T03: ADVANCED HCL, 10626 (10)

Submit

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## Usability Goals

### 3) Safety

Does the system  
*prevent* making serious/unrecoverable errors  
*provide means of recovering* from errors  
undo options, confirmation dialogs  
protect users from dangerous and undesirable conditions

Question: does it prevent users from making/recovering from serious errors? does it jeopardize the well-being of the user or others?

Criteria: number of errors/time to recover from errors

Eg:  
Systems in chemical plants  
Synching files  
Drawing tools

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## Usability Goals

### 4) Utility

Sufficient functionality to accommodate range of users tasks

Will the system provide sufficient fluidity to cover tasks as performed

Question: does it provide sufficient functionality for users to carry out tasks as naturally as possible?

Criteria: availability of core tasks

e.g.  
Accounting packages  
Drawing tools

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## Usability Goals

### 5) Learnability

How easy is the system to learn

Important if system will be adopted by the user  
particularly if used infrequently

Need to identify how much time users are willing to spend to learn the system

Question: can primary (core) and secondary tasks be learned quickly and easily?

Criteria: time to learn a task, errors made in learning a task

E.g.,  
Movie ticket kiosk  
ATM  
iPhone??

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## Usability Goals

### 6) Memorability

Once learned, how easy is the system to remember

Particularly important if system will be used infrequently

Can users remember with the aids of appropriately designs icons, command groupings, etc.

Question: will users remember all the steps to carrying out a task?

Criteria: errors made in carrying out a task after system is learned

E.g. iTunes video upload??

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### Activity

How long should it take to learn to use the following products? How long does it actually take? How memorable are they?

- a) Using a DVD to watch a movie
- b) Using an authoring tool to create a simple website
- c) Setting up a wireless router

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### Activity

- a) Should be as simple as 'turning it on' and should be very straightforward to remember how to do it the next time. In most cases this is true. However, some require the TV to be on a certain channel.

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### Activity

- b) A user should be able to produce a basic web site in 20-30 mins. Most packages do achieve this goal (e.g., allowing the user publish content in web format). Some more complex operations will take longer, but users can learn and remember basic functionality relatively easily.

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### Activity

- c) Setting up a wireless router or access point is difficult to learn. It typically requires completing many steps, with terminology that is unfamiliar to most users. Many users are not able to do this at all and have to call for help from the "Geek Squad". If its memorable, its because the user *really* wants to learn how to do it.

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## User Experience Goals

One goal could be to build systems that are more than usable

They should also enhance the user's experience

User experience goals relate to how the user *feels* using the system

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## User Experience Goals

Some experience goals include:

- Satisfying: productive
- Motivating: did not feel like giving up
- Enjoyable: no frustrations were encountered
- Aesthetically pleasing: subjective
- Fun: excited about using it again
- Supportive of creativity: drawing tools
- Entertaining: games
- Rewarding: sense of productivity
- Helpful: clueless but still made it through
- Emotionally fulfilling: evokes emotions/online chatting

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## Usability vs. Experience Goals

Usability goals could take primary importance but not always

User experience goals are not easily measured

In some cases less-usable systems increase the user experience, indirect relationship (nintendo foot pads for racing vs. hand pads/joysticks)

Have to balance the tradeoffs between user experience and usability goals

Be selective about which goals to pursue for designing a system or parts of a system

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## Activity

What are the key usability and user experience goals of these systems:

- a) an Internet application that allows the general public to access their medical records
- b) a CAD system for architects and engineers
- c) an online community to support people who are bereaved
- d) an in-car GPS
- e) a cinema ticket dispenser
- f) climate control system

Provide one criteria for each of the usability goals for item (e)

*Reminders:*

*Usability: Effectiveness, efficiency, safety, utility, learnability, memorability*

*User experience: satisfying, motivating, fun, enjoyable, helpful, support creativity, aesthetically pleasing, entertaining, rewarding, emotionally fulfilling*

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### Activity

	Usability Goals	User-experience goals
a)	Safe, memorable, efficient, effective	Helpful
b)	Easy to learn, efficient, memorable, good utility, effective	Support creativity, aesthetically pleasing
c)	Easy to learn	Motivating, emotionally satisfying, rewarding
d)	Safe, good utility, easy to learn, efficient	Motivating
e)	Easy to learn, memorable, efficient	Satisfying, motivating
f)	Easy to learn, memorable, good utility	

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### Activity

The following are criteria for the usability goals of a cinema ticket dispenser:

*Learnability:* can a user of the cinema's automated ticket dispenser learn to use the system for the first time in less than 2-3 minutes?

*Memorability:* if a user of the ticket dispenser has not used the dispenser in months, will he/she be able to user it properly again?

*Efficiency:* will the user of the ticket dispenser be able to select, purchase and get a ticket in less than a couple of minutes?

Note: when you select a criteria for a particular goal, it has to be measurable or provide specific answers.

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### Exercise

Think about two devices or applications you use frequently

- 1) What would be the most important usability and user experience goals for these devices/ applications?
- 2) Translate the core goals outlined above into two or three criteria (specific and measurable)
- 3) Do you feel the designers of these devices/applications satisfied the goals you outlined above?

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### Exercise

An example of the first: an on-line banking system which is not *fun* and *enjoyable* but yet more *efficient* than driving the car to a bank, finding a spot to park, waiting in line and paying the bills.

An example of the second: a drawing utility used by artists, which can support *creativity* (user experience goal) but will not provide the same level of *efficiency* or even as *effective* as if done manually.

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## Usability Goals: Recap

Usability goals involve defining important usability objectives for a particular system or part of a system

Usability criteria are specific metrics that can be used to test whether the goals have been achieved

User experience goals relate to the subjective experience and are more difficult to measure